

Remarks/Arguments

Claim 1-20 are currently pending in the above-referenced patent application. Claims 9-20 are newly added by way of the present Amendment.

In the Office Action, claims 1-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ausschnit et al. (U.S. Patent No. 5,965,309) in view of Yoshioka et al. (U.S. Patent No. 6,051,349). These claims recite “...obtaining...information ...during...pre-exposure processing...on [a] semiconductor device...and providing that information as feed forward data...” It is further recited, “...generating...one or more adjustment signals based on the feed forward data...” It is also recited, “...adjusting a photo-exposure time...in accordance with [the] one or more adjustment signals...”

Ausschnit et al. relates to “focus or exposure dose parameter control system using tone reversing patterns”, as specified in the title. FIG. 20 of Ausschnit et al. relates to a manufacturing control system. In block 362 of FIG. 20, a lot [of substrates] is exposed in a lithography process. In block 364, shape and space are measured. Deviations from target values are determined in block 368. Dose and focus deviations are determined in block 372. In block 374, feedback to a next lot [of substrates] is provided. Accordingly, there is no teaching or suggestion in Ausschnit et al. of obtaining information during pre-exposure processing on a semiconductor device and providing that information as feed forward data. This is evident and apparent, as measurements and determinations in blocks 364, 368, and 372 of Ausschnit et al. take place after exposing a lot [of substrates] to a lithography process in block 362.

Yoshioka et al. relates to an “apparatus for coating resist and developing the coated resist”, as specified in the title. In column 7, lines 57-62 of Yoshioka et al., it is disclosed that “...CPU 45 delivers a feed forward command signal or a feed back command signal...based on the result of the arithmetic comparative operation so as to control the operation of each of the process units such that the pattern line width is allowed to have a correct value.” In FIG. 14 of Yoshioka et al., it is shown in block S11C that the line width is measured and provided as feed back to light-exposure block S9A. A similar arrangement is illustrated in FIG. 20 of Yoshioka et al. However, there is no disclosure of feed forwarding information from pre-exposure processing. It is shown in FIG. 15, feed forward of measured latent line width to PEB in block S12A and development in block S14A. However, the information feed forwarded to a PEB (post-exposure baking) process or development process, as indicated in block S12A and S14A, is not information obtained during pre-exposure processing. Accordingly, Yoshioka et al. does not alleviate the deficiency of Ausschnit et al. of not disclosing “...obtaining... information...during...pre-exposure processing...on [a] semiconductor device...and providing that information as feed forward data...” At least for this reason, a *prima facie* case of obviousness has not been established.

CONCLUSION

In view of the foregoing, Applicant respectfully requests withdrawal of all rejections and objections of record, the allowance of all pending claims, and the holding of this application in condition for allowance. If any points remain of issue that may best be resolved through a personal or telephonic interview, the Office is respectfully requested to contact the undersigned at the telephone number listed below.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Daniel H. Sherr, Esq. (Reg. No. 46,425) at (703) 715-0870 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,
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